

A Regional Health Manpower Survey Conducted by a Community Consortium

ANNE A. DACHS, MPH, GEORGE J. HOLLAND, PhD, and ADDIE L. KLOTZ, MD

THE SAN FERNANDO VALLEY Health Consortium, Inc., a nonprofit community-based corporation, has as its primary goal a coordinated, integrated approach to training health manpower. The consortium has been operating since 1969 in southern California and has recently been funded as a health services/educational activity through the California Committee on Regional Medical Programs.

The activities of the consortium are governed by a community-based board of directors whose members represent consumers, health care institutions, health professionals, and educational institutions. Fifty-one percent of the board members represent consumers (1).

The consortium develops and coordinates health career programs, using existing resources,

Ms. Dachs is project coordinator of the San Fernando Valley Health Consortium, Inc. Dr. Holland is executive director of the consortium, and Dr. Klotz was formerly college director of the consortium and is presently executive director of health services, University of Southern California. The study reported in this paper was supported by development component grant No. 88657-0, 8-27-71, from the California Committee on Regional Medical Programs.

Tearsheet requests to Anne A. Dachs, San Fernando Valley Health Consortium, Inc., 10401 Balboa Blvd., Granada Hills, Calif. 91344.

and promotes articulation among the various educational and training activities. The emphasis is on appropriately training persons for the jobs which are available, building in to all training programs horizontal, vertical, and geographic mobility for participants. It is thus hoped that individuals will not become dead-ended in positions which no longer offer them a challenge or opportunity for advancement. The programs coordinated by the consortium will eventually encompass projects such as the inter-institutional core curriculum in the health field, career ladders, and the use of proficiency and equivalency examinations.

The health care delivery system in the United States is presently in a period of transition. There is a change in emphasis from inpatient to outpatient services. All indications are that in the next few years Congress will pass enabling legislation for some form of national health insurance. With changes in the health care delivery system, the demands for numbers and types of health manpower will also change. Most health manpower data are available only on a nationwide or Statewide basis, making it difficult to plan for the needs of a given area. This study was undertaken to identify the problems specific to the area of southern California served by the consortium.

The consortium has a number of actively functioning committees. One of these, the Health Manpower Committee, participated in the design of this study and analysis of the results. The com-

mittee's intention was to define the current needs and problems of health care providers, as well as to identify some of their anticipated problems with health manpower. The survey was aimed at developing current comprehensive local baseline data on which to build a knowledge and understanding of the changing health manpower needs of the area.

The 2,000-square-mile area covered by the survey includes the San Fernando Valley, Antelope Valley, Ventura County, Santa Monica, Venice, and west Los Angeles, where live nearly 2 million people. More than 350 health care institutions in the area were included in the survey.

Health manpower needs, for the purpose of this article, are defined in terms of the requirements of health care providers. There was no attempt to define optimum health care in terms of unmet medical problems found in the community. This approach, while limited, is pragmatic, reflecting more closely what is actually occurring in the job market, rather than projecting what ought to occur.

Methods and Participation

The health manpower survey was conducted in two phases; the first phase dealt with hard data, that is, the number of persons employed in various occupations as well as vacancies in those occupations. The second phase dealt with subjective information and consisted of interviews of health care administrators. All data collected are for the first quarter of 1972.

In the first phase, questionnaires were mailed to health care facilities in the area. These questionnaires listed some 90 health occupations, with space opposite each occupation for the number of full-time equivalent positions, number of persons employed, and number of vacancies in that occupation.

The survey form was mailed to hospitals, skilled nursing care facilities, long-term mental health institutions, voluntary and official health agencies, independent laboratories, independent physical therapists and inhalation therapists, and group medical practices in the area. The lists for the hospitals, skilled nursing facilities, and long-term mental health institutions included in the survey were constructed from the State of California facility licensing list. All facilities licensed in the area were included.

The lists for the other organizations were somewhat more difficult to construct. Agencies included were both official and voluntary. We sent the questionnaire to all mental and physical health agencies listed by the Los Angeles County or Ventura County Welfare Information Service as serving the consortium service area and providing direct patient services.

Independent laboratories, physical therapists, and inhalation therapists were put in a separate category because many hospitals reported that they contracted for these services with independent operators. The list of these groups was constructed partly from information provided by the hospitals and partly from telephone listings.

Group medical practices were included in the survey in an attempt to gain information about the use of health manpower in more complex office settings. Forms were sent to those whose telephone listing indicated a group practice, either single or multispecialty. There was no attempt to survey other private practitioners—physicians, dentists, psychologists, chiropractors, pharmacists, or others.

After three mailings and at least one telephone contact, the response rate to the mailed questionnaire was considered more than adequate for the purpose of the study. Hospitals showed the best response rate at 89 percent. Group medical practices had to be eliminated from further analyses because their response rate was 31 percent and judged not to be sufficiently representative. The response rates for the various institutional categories were as follows:

<i>Institution</i>	<i>Total</i>	<i>Respondents</i>	
		<i>Number</i>	<i>Percent</i>
Hospitals	53	47	89
Skilled nursing care facilities..	104	66	63
Long-term mental health facilities	8	6	75
Agencies	71	54	76
Independent laboratories, physical therapists, inhalation therapists	61	28	46
Group medical practices	61	19	31

The purpose of the second phase of the study, the interview, was to discuss specific problems faced by health care administrators in staffing and operating their facilities. In this portion of the survey we attempted to identify occupations for which trained persons are in short supply as well as positions filled by persons not appropriately trained for tasks they are performing. There were

14 questions asked in the interview. Examples of these questions follow:

1. Are there any health occupations for which you have difficulty employing or recruiting trained persons? (describe)
2. Are there persons from any health occupation employed by you who are consistently inadequately trained? (describe)
3. Are there health occupations which you currently employ which you did not 2 years ago? (describe)

Administrators from all participating hospitals and a sample of 20 administrators of skilled nursing care facilities were interviewed. There were no interviews of other administrators. Only two interviewers were used, one completing all interviews of hospital administrators, and the other, administrators of skilled nursing care facilities. The interviewers used the nondirective inquiry technique.

We plan to update the study, using a sampling technique, in the first quarter of 1974 in order to identify changing manpower trends.

Discussion and Interpretation

There are some 3.9 million workers in the health care industry in the United States. In the facilities responding in the survey there were 23,137.3 full-time equivalent positions (table 1). Adjusting this number for facilities that did not respond in the survey yields an estimated total of 28,865.3 full-time equivalent positions (table 2). Many health workers, such as physicians, dentists, and their employees, were not included in the survey. If one includes these, one can conclude that locally, as well as nationally, health care is the third or fourth largest industry.

Unlike other major industries, health care employees do not work in large plants but in hospitals, nursing homes, clinics, and agencies—some with few employees—and in the offices of physicians and dentists. The health care industry is indeed fragmented geographically as well as organizationally.

The most striking data in table 1 are the vacancy rates. Administrators were asked to enumerate the vacancies for which they were currently recruiting. The overall vacancy rate was 1.6 percent, a rate well below that anticipated at the outset of the survey. Most other industries find a position vacancy rate of 4 or 5 percent acceptable (2). It should also be pointed out that positions do not tend to remain vacant for very long.

Although vacancy rates are low in health care facilities on a given day, employee turnover remains high. The Hospital Council of Southern California collects turnover data voluntarily supplied by the hospitals. Not all hospitals participate, nor do all participating hospitals report every quarter (3).

The rates of employee turnover for hospitals in southern California for the first quarter of 1972 were as follows:

<i>Types of worker</i>	<i>Rate</i>
Registered nurses	8.26
Licensed vocational nurses	8.48
Nursing assistants	9.95
X-ray technicians	7.33
Medical technologists	8.05
Clerical workers	10.41
Dietitians, food preparation workers	10.41
Housekeeping	11.79
Maintenance	5.84
Total	8.56

On the average, the rates for hospitals in the survey area were close to those reported to the hospital council. The general turnover rate in hospitals in southern California was 8.56, which can be projected to 34.24 for the entire year. Some hospitals have reported as high as 25 percent turnover in one quarter of 1972. These statistics may represent the lowest possible estimate of turnover, as nonreporting hospitals are likely to be those with higher turnover rates.

It is important to realize that this high turnover would be unacceptable in most industries. Experts report that for most large industries, a yearly turnover of 10 to 15 percent would be acceptable to maintain stability as well as a dynamic operation (2).

Perhaps the most important interpretation of the high turnover in the presence of low vacancy rates is that jobs are similar in the various health facilities. The high turnover also indicates that employees are not identifying with a given institution and making a career investment in that institution, but instead are floating from one job to the next.

Several contributing factors prevent health workers from making a career commitment to one facility. Career ladders in the health field are few. Opportunities for persons to build on their professional skills are limited. In addition, generally there have not been comprehensive fringe benefits in the health field which might encourage employees to stay with a given facility. Only now are retirement plans and maternity leave being of-

ferred. These contribute to a stable work force, and most of them have been lacking in the health care industry.

Information on selected occupations is given in table 3. While we do not propose to discuss each occupation, we think it important to discuss how the data might be used.

The data will be most useful to those planning programs in the various community colleges, California State University, Northridge, and in occupational centers in this part of southern California. As a starting point, a college planning to add or expand training courses for a particular occupation could study the data and project to account for institutions not participating in the survey. Then, with the assistance of health care facilities, other educational institutions, and health planning agencies, they will need to account for population growth, facility expansion, possible changes in the delivery system, and the number of persons currently being trained.

Nursing

Nursing is the only group of occupations that we discuss specifically in this article. Nursing is of obvious importance to the health care delivery system, and nurses are the largest single discipline. In the institutions surveyed, 4,124 registered nurses were identified as employed in participating health facilities; 3,777 of these work in hospitals.

In that portion of the health manpower survey which dealt with the number of persons employed in various occupations, we requested that the number of nurses who had baccalaureate degrees be enumerated separately from registered nurses who were graduates of 2- and 3-year programs.

Skilled nursing facilities and many hospitals were not able to provide information on the educational background of nurses. Of the 2,231 RNs identified in the 25 hospitals reporting educational level of nurses, only 261, or 11.7 percent, currently hold a baccalaureate degree. Of these

Table 1. Employees and vacancies in facilities participating in the health manpower survey, by type of facility

Type of facility	Number of—			Vacancies reported	
	Facilities	Beds	Em- ployees ¹	Num- ber ¹	Per- cent
Hospitals	47	10,802	17,570.0	205.6	1.2
Skilled nursing care facilities	66	6,284	3,138.3	112.5	3.6
Long-term mental health facilities	6	405	198.3	1.5	.8
Agencies	54	1,153.3	26.7	2.3
Independent laboratories, physical therapists, and inhalation therapists	28	1,077.4	28.5	2.6
Total			23,137.3	374.8	1.6

¹ In full-time equivalents.

Table 2. Projected total of employees, in full-time equivalents, in the health manpower survey area, by type of facility

Type of facility	Number of employees		
	Participating facilities	Projected for nonparticipating facilities	Projected total for 1972
Hospitals	17,570.0	2,061.2	19,631.2
Skilled nursing care facilities	3,138.3	1,709.0	4,847.3
Long-term mental health facilities	198.3	128.2	326.5
Agencies	1,153.3	226.8	1,380.1
Independent laboratories, physical therapists, and inhalation therapists	1,077.4	1,602.8	2,680.2
Total	23,137.3	5,728.0	28,865.3

Table 3. Positions, employees, and vacancies in all facilities, by occupation, reported in the health manpower survey

Occupation	Number of—		Vacancies ¹	Percent of positions vacant ¹
	Positions ¹	Employees		
Registered nurse (2–4 years training)	3,616.5	4,142	66.6	1.8
Licensed vocational nurse	1,088.1	1,229	39.5	3.6
Nursing assistant	4,492.3	5,009	139.0	3.1
Licensed clinical laboratory technologist	586.5	651	16.0	2.7
Non-licensed laboratory technician	202.8	204	6.0	3.0
Radiologic technologist	241.9	273	5.0	2.1
Electrocardiographic technician	71.3	81	0	0
Electroencephalograph technician	42.5	46	0	0
Inhalation therapist	225.3	242	2.0	.9
Physical therapist	160.4	188	5.0	3.2
Physical therapy assistant	92.6	103	0	0
Registered occupational therapist	63.4	70	2.5	3.9
Occupational therapy assistant	24.2	32	1.0	4.1
Recreation therapist	35.9	38	1.0	2.8
Speech therapist	15.6	23	0	0
Social worker (MSW degree)	277.6	308	2.0	.7
Social worker assistant	53.9	61	0	0
Psychologist	115.3	137	0	0
Pharmacist	123.3	150	0	0
Medical records librarian	41.9	50	2.0	4.8
Medical records technician	32.5	36	0	0
Dietitian	91.6	118	0	0
Food service supervisor	114.0	117	0	0
Central supply technician	203.8	222	3.0	1.5

¹ In full-time equivalents.

261 RNs, 135 are employed in one hospital, which until recently had a policy of hiring only graduates of degree programs. If these 135 are subtracted from the total, the percentage of nurses with baccalaureates drops to 6.1.

In the State of California, 24 percent of all RNs are trained in baccalaureate programs; nationally this percentage drops to 19 (4). The area of the consortium is obviously well below both the State and national levels.

Results of Interviews

Administrators from all 47 hospitals participating in the survey were interviewed in the second phase of the survey. A number indicated that their hospitals are expanding outpatient services. This expansion is in response to the possibility of legislation establishing a national health insurance system and encouraging health maintenance organizations.

More than half the administrators reported having difficulty employing sufficient RNs, although many qualified their remarks, saying that they have problems only on night and evening shifts and in filling positions for specialists, such as critical care nurses. When asked if there are health occupations for which training is inadequate,

most administrators mentioned the RN graduate of associate of arts degree programs. Several suggested the possible need for a 6-month to 1-year internship period for those with AA degrees.

The interviewer also attempted to solicit information on new occupations which had been added to the staff in the last 2 years or which may be added in the next 2 years. Most of the responses cited occupations which evolved because of new technologies, such as cardiac catheter technician and nuclear medicine technician, or are related to social services such as patient care coordinator.

The problem most frequently expressed by the administrators of skilled nursing care facilities is the difficulty of hiring well-trained nursing assistants. These agencies depend heavily on nursing assistants to provide care. In this study, 76 percent of all nurses in extended care facilities were nursing assistants. The administrators have expressed a need for assistance in offering inservice training to upgrade the quality of nursing care.

Future Planning

The first consideration in planning for adequate health manpower is anticipated population growth. The consortium's health manpower survey used data from the 1970 population census. These statistics show an anticipated growth rate

for the San Fernando Valley of about 10 percent between 1970 and 1975, and 35 percent between 1970 and 1990. Dramatic growth rates are anticipated for the Antelope Valley (Lancaster-Palmdale) and the Santa Clarita Valley (Saugus-Newhall). The 20-year projection for the Antelope Valley is 5 times the 1970 population of 76,100, and for the Santa Clarita Valley, it is 4.5 times the 1970 population of 54,400. These projections assume the development of a major airport in Palmdale and industrial development in both areas.

The Santa Clarita Valley, and particularly the Antelope Valley, are geographically separate from the other areas of the consortium. Because of the large anticipated growth rate of these two valleys, special planning to meet their needs will be necessary.

In 1970, the Health Manpower Council of California completed a report entitled "The Impact of National Health Insurance on the Demand for Health Manpower" (5). In that report the council estimates that, after an initial 3-year period of greatly increased demand, there will be a yearly increased demand of approximately 15 percent for hospital workers and a 9 percent yearly increase for physicians. These estimates are based on past experience with Medicare. They assume no change in the health care delivery system. If the delivery system should become more efficient, those figures must be revised downward.

Additional consideration must be given to expansion of facilities in the area surveyed. As reported in the interview phase of this survey, more than 1,200 new hospital beds will be added in the San Fernando Valley in the next 2 years. No new facilities with bed capacity are currently under construction in the other areas of the survey. These 1,200 new beds might mean increased demands for health manpower.

According to information available through the Comprehensive Health Planning Association of Los Angeles County, hospital occupancy rates run as low as 50 percent in many hospitals in the San Fernando Valley. Anticipating the health manpower needs of the new and expanded facilities must therefore be approached cautiously. For economic reasons, some beds may not be put into use immediately. The low occupancy rates may reflect the change in emphasis to outpatient serv-

ices as well as the current economic depression of the area.

A great deal has been written about the health manpower shortage, but this study has been unable to document that shortage. There may be an oversupply or maldistribution, or both, in some occupations. Health planners will have to study those possibilities in the future.

The Health Manpower Committee of the consortium, in light of the results of this survey, has recommended that, for the next 2 or 3 years, resources should not be used to expand existing programs or develop new training programs. Rather, the resources ought to be used at this time to restructure curriculums providing for the interdisciplinary core curriculum. Also, articulation and transferability of credits among educational institutions ought to be expanded. Health care facilities themselves must be asked to look at the possibility of developing internal career ladders which may discourage high turnover. If resources are thus directed in the next 2 or 3 years, the schools will be prepared to expand their programs easily a few years from now when demand for health manpower increases.

It may be that the results of this survey are unique. However, there is also the possibility that the health manpower shortage has been exaggerated. Because it is important not to train people for jobs which do not exist, educators and planners must carefully examine training programs to insure that valuable resources are not wasted.

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